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Congress Program

Congress Theme

The theme for the Congress is
"Building on History for the Future".

Call for Papers

The call for papers for the 14th Australian International Aerospace Congress is now closed.

Abstract for Papers to be Peer Reviewed Submission Closed at 5.00pm, 16 July 2010

**Abstract for Papers NOT Requesting Peer Review Submission Closed at 5.00pm, 24 September 2010
(01 October for APISAT)**



Program

[AIAC14 Congress Program](#) will offer two days of sessions followed by a visit to AVALON 2011.

The Congress will incorporate the;

- 14th Australian Aeronautics Conference,
- 7th International Conference on Health & Usage monitoring (HUMS2011) and
- 3rd Asia-Pacific International Symposium on Aerospace Technology (APISAT 2011).

On Thursday 3 March delegates will visit AVALON 2011 – Australian International Airshow and Aerospace & Defence Exposition.

Keynote Speakers

A variety of international speakers are currently been approached by the Organising Committee for the 14th Australian International Aerospace Congress.

Please click on "Keynote Speakers" for further information.

Presenter Log-in

Presenters can log-in to a password protected area to receive information relevant for their paper submission, presentations, poster displays and and key dates. Passwords are emailed to the submitting abstract author.

[Log in](#)

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14th Australian International Aerospace Congress incorporating;
14th Australian Aeronautical Conference

7th DSTO International Conference on Health & Usage Monitoring (HUMS2011)

3rd Asia-Pacific International Symposium on Aerospace Technology (APISAT 2011)

AIAC14 and its incorporated Conferences attracted 467 International and National delegation and provided significant technical and business opportunities for aerospace professionals worldwide.

We would like to take this opportunity to thank the Invited Speakers for sharing their time and expertise and to those who contributed to our stimulating program by making oral and poster presentations. We would also like to thank the delegates and Sponsors for their participation in making the AIAC14 Congress a successful one.

Once again we thank you and hope to see many of you at the 15th Australian International Aerospace Congress (AIAC15) in 2013.

14th Australian International Aerospace Congress CD of Proceedings

The AIAC14 Congress Committee has made available a CD of Proceedings for those who weren't able to attend AIAC14 2011. Should you wish to purchase a copy of proceeding please complete the [AIAC14 CD of Proceedings Order Form](#) to obtain your copy?

Congress Co-Hosts:



Associated Event:



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Call for Papers

[Key Dates](#)[Call for Abstract Submission](#)[Keywords/Topics](#)[Paper Review Process](#)[Congress Proceedings](#)[Recognition of Best Papers](#)[Oral and Poster Presentation Format](#)[Speaker Registration](#)[Contact Details](#)

Key Dates

Abstract for Papers to be Peer Reviewed Submission Closes	16 July 2010
Abstract for Papers NOT Requesting Peer Review Submission Closes	24 September 2010
Abstract for Papers NOT Requesting Peer Review for APISAT 2011	01 October 2010
Submission Deadline for papers to be Peer Reviewed	01 October 2010
Early Bird Registration Closes	03 December 2010
Submission Deadline for papers that are NOT Peer Reviewed	03 December 2010
Speaker Registration Closes	20 December 2010
Final Submission Deadline for papers that have taken part in the Peer Review Process	10 January 2011

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Call for Abstract Submission

Members of the international aerospace community are invited to submit abstracts for proposed papers and technical briefings that are consistent with the overall Congress theme and topic areas for the three conferences:

- 14th Australian Aeronautical Conference,
- 7th DSTO International Conference on Health and Usage Monitoring (HUMS2011) and
- 3rd Asia-Pacific International Symposium on Aerospace Technology (APISAT 2011).

The papers may take the form of detailed Technical Papers discussing research results and other largely original work, or papers of more general interest nature such as Technical Briefings on capability development programs and new product developments.

If you wish to submit an abstract for consideration by the Program Committee, you must also intend to register for the Congress. On-line submission is the only method of receipt of abstracts.

Abstract submission is a two step process:

STEP 1

Abstract template: download the abstract template, save it to your desktop and complete it:

- Use this template to present your abstract in the required format. Abstracts not submitted using this template will be returned for correction.
- Your abstract text should be no more than 500 words.
- Your abstract should clearly and concisely outline the CONTENT of the presentation and should include key points/issues to be addressed.
- Delete all text in red when you have completed this template.
- After completing the abstract template, move onto step 2.

STEP 2

Online abstract submission form: to complete the online abstract submission form, the following information is required:

- Your contact details
- The title of your abstract
- Nominate your preferred presentation format
- Keywords / topics

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- Name and organisation of all co-presenters and co-authors
- Brief biographies for yourself and all co-presenters.
Each biography should be no more than 100 words
- Audio visual requirements
- Your completed abstract [template](#)

The Abstract Submission has now closed. Please contact the Congress Office if you have any queries.

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Keywords/ Topics

14th Australian Aeronautical Conference
7th DSTO International Conference on Health & Usage Monitoring (HUMS2011)
3rd Asia-Pacific International Symposium on Aerospace Technology (APISAT 2011)

Fourteenth Australian Aeronautical Conference

A joint event of Engineers Australia and the Royal Aeronautical Society, Australian Division

Chair: Dr Noel Martin

Research Leader-Airborne Mission Systems, Air Operations Division, Defence Science and Technology Organisation (DSTO)

The technical program of the 14th Australian Aeronautical Conference will be a joint venture of Engineers Australia and the Royal Aeronautical Society, Australian Division. The Conference aims to present key innovations and achievements in aeronautic technologies and systems, and their current and future aerospace applications. This Call for Abstracts is seeking papers that will report on original work and state-of-the-art reviews that enhance knowledge of aeronautics in the broad areas of:

- Aeronautic Systems, Science, and Technology
- Applications of Aeronautic Systems or Technology to Military, Civil or Commercial Endeavours
- Aerodynamics, Flight Mechanics and Fluid Mechanics
- Aero Structures
- Material Sciences
- Combustion and Propulsion
- Navigation, Guidance and Control
- Avionics and Mission Systems
- Space Technologies and Systems
- Unmanned Aerial Systems
- Aging Aircraft, Cost of Ownership, and Sustainment
- Air Operations and Traffic Control
- System Engineering and Management Science in the Aerospace Industry
- Government Policy that Directs or Drives Aerospace Programs, Systems, and Technologies.

Further topics of interest underpinning many of the above broad areas include, but are not limited to, modelling and simulation, training, support and maintenance, computer aided design and design optimisation, test and evaluation, experimentation, computer aided decision making, corrosion a fatigue, software engineering as well as the development and maintenance of flight critical software, automation and robotics, safety, security, regulation, qualification, and certification.

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Seventh DSTO International Conference on Health & Usage Monitoring (HUMS2011)
Organised by the Defence Science & Technology Organisation

Chair: David Forrester

Propulsion Systems Branch, Air Vehicles Division, Defence Science and Technology Organisation (DSTO)

Co- Chair: Graham Forsyth

Consultant and Founder of HUMS Conference for Defence Science and Technology Organisation (DSTO)

Increasingly, mechanical devices whether fixed systems, land vehicles, marine vehicles (including submarines) or aircraft (including helicopters), are being managed using various Condition Monitoring (CM) or Condition-Based Maintenance (CBM) approaches. All these approaches rely on health (condition) and usage monitoring systems and are most suited to ensuring availability, reliability and safety of critical and high-value assets.

Abstracts for HUMS2011 will be sought for, but not limited to, papers in topics:-

- Health/Condition and Usage Monitoring Strategies
- Condition-Based Maintenance
- Cost-Benefit Analysis
- Data Management
- HUMS Field Experience
- Monitoring Techniques for Propeller/Rotor Track and Balance
- Monitoring Techniques for Engine and Transmission Vibration
- Prognostics and Health Management (PHM)
- Structural Loads Monitoring
- Usage Monitoring

As these apply in areas such as:

- Helicopters
- Fixed-Wing Aircraft
- Land Vehicles
- Marine Vehicles
- Fixed Machinery
- Other or Multiple Areas

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Third Asia-Pacific International Symposium on Aerospace Technology (APISAT 2011)

Chair: A/Professor Cees Bil

Chairman National Organising Committee (APISAT)

Royal Aeronautical Society Australian Division

The Asia-Pacific International Symposium on Aerospace Technology (APISAT) is an initiative by the Korean Society for Aeronautical and Space Sciences (KSAS), the Japan Society for Aeronautical and Space Sciences (JSASS), the Chinese Society for Aeronautics and Astronautics (CSAA) and the Royal Aeronautical Society Australian Division (RAeS Australian Division). For APISAT-2011, the host society is the RAeS Australian Division and the symposium forms part of the 14th Australian International Aerospace Congress. The symposium provides an opportunity for researchers from Asia-Pacific nations and other countries to present their achievements in aerospace R&D and to join us to reflect on aerospace matters concerning our region.

We invite papers that report on innovation, technical and scientific advances on topics that may include, but not limited to:

- Computational Fluid Dynamics
- Wind Tunnel Testing
- Flow Visualization
- Unsteady Aerodynamics
- Acoustics
- Aircraft, Helicopter and UAV Design
- Flight Simulation
- Navigation
- Guidance and Control
- ATM/CNS
- Sensors and Actuators
- Satellite Attitude Control
- Structural Analysis
- Structural Testing
- Smart Structures
- Composite Structures
- Structural Dynamics and Control
- Aeroelasticity and Control
- Combustion Analysis
- Fuel Injection
- Turbines
- Engines
- Cooling Systems
- Spacecraft Propulsion

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Paper Review Process

Abstracts for proposed papers are due by 16 July 2010. Authors are requested to indicate, by clicking the appropriate box, which of the three respective conferences that they are submitting their paper to for consideration.

Authors will be notified of acceptance or rejection of their Abstract by the 13 August 2010.

Authors are requested to notify the respective Conference, by clicking the appropriate box, if they wish to have their full paper Peer Reviewed. Note that the deadline for peer reviewed papers is 01 October 2010. Reviewers feedback will be returned to the authors.

The paper template and on-line submission form can be downloaded from the Congress website. Incorrect formatting will not be accepted.

The final deadline for non-peer reviewed papers is 03 December 2010 and amended peer-reviewed papers is 10 January 2011.

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Congress Proceedings

All papers, whether presented using the oral or poster format, will be included in the Congress Proceedings on CD-Rom. Papers that satisfy the Peer Review process will be indicated as such in the Congress Proceedings.

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Recognition of Best Papers

Papers will be considered for the Conference Best Paper awards program. Selected Technical Papers will be recommended for inclusion in the *Australian Aeronautics Journal*, published by the Royal Aeronautical Society Australian Division.

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Oral and Poster Presentation Format

The Congress will provide for both oral and poster presentation formats. Every effort will be made to fully integrate both presentation formats into the technical program. When submitting your abstract, you are invited to nominate a preferred presentation format by clicking the appropriate box; however the Program Committee reserves the right to decide on the format of presentation for each paper on the basis of time, space available and applicability to the Congress theme and Conference topics/keywords.

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Speaker Registration

The invitation to submit an abstract does not constitute an offer to pay travel, accommodation or registration costs associated with the Conference. Similarly, no speaker fee is paid to successful participants.

All speakers must register for the Congress by Monday 20 December 2010.

Speakers who are not registered by this date will have their paper withdrawn from the Congress and it will not be published.

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Contact Details

For any enquiries regarding abstract submission please contact the Congress Office:

AIAC14 Congress Office
Alison Armstead
Program Coordinator

WALDRONSMITH Management
61 Danks Street West
Port Melbourne VIC 3207 Australia
Tel: +61 3 9645 6311
Fax: +61 3 9645 6322
Email: aiac@wsm.com.au

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Monday 28 February 2011

1730 - 1900 Registration Desk Open

Welcome Reception, Melbourne Convention Centre
The Hon Richard Della Riva Minister for Employment & Industrial Relations
Minister for Manufacturing, Exports & Trade
State Member for Eastern Metropolitan Region

Tuesday 01 March 2011

0730 - 1730 Registration Desk Open

0815 - 0915

Room

Chair

0815 - 0835

(20 mins)

0835 - 0915

OPENING PLENARY SESSION

Meeting Rooms 109 & 110

Don Love

Congress Opening Address:

The Right Hon the Lord Mayor Robert Doyle

The Hon Warren Snowden, Member for Lingari

Minister for Veterans' Affairs

Minister for Defence Science and Personnel

Minister for Indigenous Health

Congress Plenary Address:

AVM Chris Deebie

Defence Materiel Organisation

AUSTRALIA

Managing Complex Programs - The Wedgetail Experience

Move between session

0915 - 0920

0920 - 1000

Room

Chair

Keynote Address 1

Meeting Room 105

David Forrester

Terry Saunderson

Directorate General Technical Airworthiness

AUSTRALIA

ADF Experience with HUMS

Keynote Address 2

Meeting Room 106

Cees Bil

Junichiro Kawaguchi

Japan Aerospace Exploration Agency

JAPAN

Trevor Ireland

Australian National University

AUSTRALIA

Mission to Asteroid Itokawa: The Hayabusa Project

Keynote Address 3

Meeting Rooms 109 & 110

Noel Martin

Gerard Wallis

USN NAVAIR

USA

Open Systems Architecture, Strategy and Complexity

1000 - 1030

Morning Tea

1030 - 1200	Session 1A	Session 1B	Session 1C	Session 1D	Session 1E	Session 1F	Session 1G	Session 1H	Session 1I	Session 1J
Room	101	102	103	104	105	106	107	108	109 & 110	111 & 112
Theme	Aerospace Design	Propulsion	Avionics	CBM	Helicopter Technologies	UAVs	Structures	Materials	Aerodynamics	Aircraft Control
Chair	Kevin Goldsmith	Nigel Smith	Paul Johnson	Ian Jennions	Albert Wong	Matt Garratt	Brian Falzon	Richard Chester	Bruce Woodyatt	Farhan Faruqi
1030 - 1100	A Communities of Practice Perspective on Aerospace Engineering Jan Droblik Defence Science & Technology Organisation AUSTRALIA	Dynamic Model of a Novel Ducted Fan Configuration Miles Colman University Of Tokyo JAPAN	An Investigation of Pitot Tube and Multi Hole Pressure Probe Performance Using a Wet Weather Wind Tunnel Test Section* Terrance Flynn University of New South Wales AUSTRALIA	Critical Systems Engineering Perspectives for the Development and Implementation of Enterprise Health Management Solutions Roger Vodicka Defence Science & Technology Organisation AUSTRALIA	The Minimum Flight Routine for Helicopter Rotor Track and Balance Nick Lieven University of Bristol UNITED KINGDOM	Semi-Automatic Calibration of a Strap Down Attitude and Heading Reference System Anselm Fatiadi Defence Science & Technology Organisation AUSTRALIA	Solving Structural Interaction Equations in the Digital Age* Nicholas Bardell GKN Aerospace Engineering Services AUSTRALIA	Tree Joints: Biomimetic Insights for Aerospace Composite Joint Design* Lauren Burns RMIT University AUSTRALIA	An Efficient Strategy to Incorporate Designer-Preferences in Automated Airfoil Design* Robert Carrese RMIT University AUSTRALIA	Advanced Aircraft Automation Tasks Requiring Switched Mode Control* Onvaree Techakesari Australian Research Centre For Aerospace Automation AUSTRALIA
1100 - 1130	Australian Aviation Pioneers Celebrated in Centennial Year of Powered Flight Stratos Patsikatheodorou RMIT University AUSTRALIA	Development of an Infra-Red Suppression System for ch 47d Chinook Helicopters* Gary Dolan GKN Aerospace Engineering Services AUSTRALIA	Approaches to Performance Evaluation of Airborne Mission Systems in the Acquisition Process* Kiril Uzunov Defence Science & Technology Organisation AUSTRALIA	Autonomic and Sense and Respond Logistics: Evidence from the USA and UK* Ray Hingst University Of Southern Queensland AUSTRALIA	Rotorcraft Weight and Center of Gravity Estimation Nicole Apatre Technical Data Analysis, Inc. USA	Precise Autonomous Aerial Payload Delivery System Integrated with UAV and UGV Oleg Yakimenko Naval Postgraduate School USA	Filtering Methods to Determine Reliability-Based Hot Spots of Aircraft Structure Harry Millwater University Of Texas USA	Design Trade Study on Composite Sandwich Cryogenic Pressure Vessels Yoshiki Morino Waseda University JAPAN	Numerical Study of Synthetic Jets with Dual Circular Orifices* Hamed Riaz University of New South Wales AUSTRALIA	Using Pulsed Jet of Fresh Air to Control CO2 Concentration in an Air Cabin* Chaofan Wu University of New South Wales AUSTRALIA
1130 - 1200	Improved Preliminary Sizing Method for Multidisciplinary Aircraft Design Optimization Nhu Van Nguyen Konkuk University KOREA	Investigation of Multiple orifice Air Jet Vortex Generators for Flow Control* Simon Shun University of New South Wales AUSTRALIA	A Terrain Following Navigation Algorithm Using Terrain Elevation Data Keeyoung Choi INHA University KOREA	Overview of In-situ Environmental Monitoring and Corrosion Sensing Systems for Aircraft Environmental Degradation Management Steve Galea Defence Science & Technology Organisation AUSTRALIA	Use of Artificial Neural Networks for Helicopter Load Monitoring* Catherine Cheung National Research Council Canada CANADA	Scientific Application and Design of Small Unmanned Aircraft Systems* Andreas Scholtz Institute Of Aerospace Systems GERMANY	Shape Estimation Approach for the General Structure Based On The Strain Data Hong-Il Kim Korea Advanced Institute of Science & Technology KOREA	Experimental Investigation of an Energy Absorbing Composite Sandwich Web* Mathew Joosten University of New South Wales AUSTRALIA	An Examination of Suitability of Multi Hole Pressure Probe Technique in Skin Friction Measurement in Three Dimensional Turbulent Flow* Jason Lien University of New South Wales AUSTRALIA	On the Influences of an Increased ILS Glide Slope on Noise Impact, Fuel Consumption and Landing Approach Operation* Reinhard Koenig German Aerospace Center, GERMANY
1200 - 1300	Lunch									
Chair	Dennis Shymko Australian Ukrainian Space Industries AUSTRALIA Nathan Poyner									
1300 - 1340	Keynote Address 4:					Keynote Address 5:				
Room	Meeting Rooms 109 & 110					Meeting Room 108				
Chair	Ken Anderson Mark Stuart NASA Langley Research Center USA					David Graham John McCormick Civil Aviation Safety Authority AUSTRALIA				
	New Building Blocks for Aerospace: Advanced Materials and Processing Technologies.					Addressing the Current and Future Challenges in Aviation Safety				

Move between session

1340 - 1345										
	Session 2A	Session 2B	Session 2C	Session 2D	Session 2E	Session 2F	Session 2G	Session 2H	Session 2I	Session 2J
Room	101	102	103	104	105	106	107	108	109 & 110	111 & 112
Theme	Space	Propulsion	Avionics	Propulsion CM	Helo Structures	Uninhabited Aerial Systems	Structures	Materials	Aerodynamics	Aircraft Systems
Chair	Ian Tuohy	Albert Wong	Graham Smith	Nathan Poyner	Nick Lieven	Jan Drobnik	David Saunders	Greg Bain	Patrick Redmond	Arvind Sinha
1345 - 1415	SCRAMSPACE : Scramjet-based Access- to-Space Systems Russell Boyce University Of Queensland AUSTRALIA	Numerical Characterisation of Transient Particle-Laden Supersonic Jets* Shuo Li Monash University AUSTRALIA	Multi-core CPUs for Mission Computing and Software* Michael Mathers Defence Science & Technology Organisation AUSTRALIA	Super Hornet – F414 Engine Condition Monitoring System (ECMS) Matthew Williams TAE AUSTRALIA	Implementation of Structural Health Monitoring for the USMC CH-53E Jason Thomas NAVAIR USA	Deconflicting the Unmanned Sky: An Analysis of UAV Deconfliction Data Keirin Joyce Australian Army AUSTRALIA	Developing Crashworthy Composite Helicopter Structures: A Building Block Approach* Mathew Joosten University of New South Wales AUSTRALIA	The Effect of Ply Thickness and Notch Size in CFRP Tension Specimens* Adrian Orifici RMIT University AUSTRALIA	Multi-Objective Design Exploration and its Application to Formula One Airfoils* Matthew Watts RMIT University AUSTRALIA	Modeling of Aircraft Ground Taxiing at Congested Airport Ryota Mori Electronic Navigation Research Institute JAPAN
1415 - 1445	Attitude Guidance and Control for a Spinning, Asymmetrical Rocket Payload Michael Creagh The University Of Queensland AUSTRALIA	Model-based Engine Fault Diagnosis Using Vibration Sensor Ji-Hyuk Yang Inha University KOREA	System Design and Development of a MEMS Air Data Attitude and Head Reference System based on Self-Adaptive Kalman Filter Shao-Hua Zhu Flight Automatic Control Research Institute CHINA	An Alternative Approach for Setting Wear Debris Limits Andrew Becker Defence Science & Technology Organisation AUSTRALIA	Flight Testing of Wireless Sensing Networks for Rotorcraft Structural Health and Usage Management Systems* Steven Anns MicroStrain, Inc. USA	Development of a Micro Turboprop to Extend Altitude Capabilities of Small UAVs* Dries Verstraete The University Of Sydney AUSTRALIA	Investigation of Stiffener run-out failure* Brian Falzon Monash University AUSTRALIA	Developments in Structural Proof Testing Methodologies for Aircraft Composite Components* Alexander Herman RMIT University AUSTRALIA	Formula 1 Aerodynamics: Versatility of the NLF(1)- 0414F Airfoil at Low Reynolds Numbers* Pascual Marques Edge Hill University UNITED KINGDOM	Simulation of Aerial Refuelling in a Distributed Synthetic Environment Peter Ryan Defence Science & Technology Organisation AUSTRALIA
1445 - 1515	Control of Mechanical Ground Support Equipments for Korean Launch Complex Ilhyung Jung Korea Aerospace Research Institute KOREA	Static and Dynamic Characteristics of a Flow Regulator for the Thrust Control of a Liquid Rocket Engine Taekyu Jung Korea Aerospace Research Institute KOREA	A Vibrotactile Acceleration Vector Indicator to Assist High Accuracy Hovering Ken Friedl The University Of Tokyo JAPAN	Enhancing Propulsion System Condition Monitoring for the RNZAF Adrian Weller NZDF NEW ZEALAND	Structural Health Monitoring and damage detection of the helicopter main rotor blades with the structure integrated sensors Krzysztof Dragan Air Force Institute Of Technology POLAND	Bi-mode Bio-Inspired UAV - Is It Possible? Derrick Ho The University Of Sydney AUSTRALIA	Preliminary Aerodynamic Design Space of a Box- Wing Passenger Aircraft* Ishan Roy Salam RMIT University AUSTRALIA	The effect of clearance on single lap countersunk composite joints* Adrian Orifici RMIT University AUSTRALIA	Empirical study of flat plate trailing edge flow and noise* Danielle Moreau The University of Adelaide AUSTRALIA	Flight Testing of an Augmented Separation Management System Providing Separation Protection During Failure of the Central Communication Network* Jiezhen Sean Fan Queensland University of Technology AUSTRALIA
1515 - 1545										

Afternoon Tea

Wednesday 2 March 2011											
0715 - 1730 Registration Desk Open											
0715 - 0815		Student Breakfast Meeting Room 107									
0830 - 0910		Keynote Address 7 Meeting Room 109 & 110 Gerry Wallis Fabrice Rochereau EADS Australia Pacific AUSTRALIA Capitalising on Experience to Build Up a Strong Defence and Aerospace Industry : a European Example					Keynote Address 8 Meeting Room 106 Cees Bil Xiaoping Lu Air Traffic Management Bureau CHINA Development of Air Traffic Management in China				
Room											
Chair											
Move between session											
0910 - 0915											
0915 - 1015		Session 4A	Session 4B	Session 4C	Session 4D	Session 4E	Session 4F	Session 4G	Session 4H	Session 4I	Session 4J
Room		101	102	103	104	105	106	107	108	109 & 110	111 & 112
Theme		Space	Propulsion	Avionics	V&V and NDT	Bearings	UAVs	Structures	Materials	Aerodynamics	Operations & ATC
Chair		Ian Tuohy	Noel Martin	Arthur Filippidis	Eric Lee	Wenyi Wang	Kent Rosser	Manfred Heller	Murray Scott	Michael Dorman	John Mo
0915 - 0945		Optimal Trajectory Design for D-SEND#2 Vehicle Hirokazu Suzuki Japan Aerospace Exploration Agency JAPAN	A Simplified Simulation of Turbojet Engines* Haoyang Cheng University of New South Wales AUSTRALIA	Link 16 Integration into Airborne Mission Systems* Robert Gullely Defence Science & Technology Organisation AUSTRALIA	KC-30A SHMS Verification and Validation Ashley Tuck QinetiQ AUSTRALIA	A Systematic Approach to Bearing Health Monitoring Chris Hicksonbottom Honeywell Aerospace AUSTRALIA	Vision Based Collision Avoidance of Multi-Rotor UAVs using Optical Flow Dong-Wan Yoo Korea Advanced Institute of Science & Technology KOREA	Updated and Improved Structural Integrity Management for the RAAF AP-3C Maritime Patrol Aircraft Fleet Based on a Comprehensive Program of Testing and Analytical Model Development Kevin Walker Defence Science & Technology Organisation AUSTRALIA	Vertical Array Milli-Pin System for Alternative Joint Technology* Paul Chang Defence Science & Technology Organisation AUSTRALIA	Study on Aircraft Configuration Automation and its Application as a Pre-processor for CFD Analysis of Aircraft Aerodynamics Byoungsoo Kim Chungnam National University KOREA	Aircraft Emission Reduction Through Multi-disciplinary Flight Path Optimisation Felipe Luis Gonzalez Toro Queensland University of Technology AUSTRALIA
0945 - 1015		A study of a precision soft-landing technique for a human spacecraft using a ram-air parachute in atmospheric wind conditions Michio Ito Japan Aerospace Exploration Agency JAPAN	Analysis of Heat Transfer in Cryogenic Regenerator Using Developed Code and Comparison of the Results with 3-D Simulation by FLUENT* Saifur Rahman Bakaui Air University BANGLADESH	Dynamic Analysis of a Flapping-Wing Test Stand* James Harvey Defence Science & Technology Organisation AUSTRALIA	Non-Destructive Testing Techniques for Aerospace Applications Alison Glover Olympus Australia AUSTRALIA	Evaluation of Vibration Based Health Assessment and Diagnostic Techniques for Helicopter Bearing Components David Siegel & Jay Lee US Army Research Lab / University of Cincinnati USA	Aircraft Design of an Endurance UAV Testbed for Multiple Mission Requirements Daniel Paulus Institute For Aerospace Systems, TUM GERMANY	Damping Identification In A Non-Linear Aeroelastic Structure* Gareth Vio University Of Sydney AUSTRALIA	Electro-thermal Anti-icing Characteristics of Composite Strut of Aeroengine Inlet Xu Lei Shenyang Aeroengine Research Institute CHINA	Extension of Flutter Margin Evaluation for Discrete-Time Systems Hiroshi Torii Meijo University JAPAN	Aircraft Sequencing for Minimal Fuel Burn Adriana Andreeva University Of Tokyo JAPAN
1015 - 1045 Morning Tea											

1315 - 1355		Keynote Address 9					Keynote Address 10				
Room		Meeting Room 109 & 110					Meeting Room 106				
Chair		Brian Fatzon Ian Jennions Integrated Vehicle Health Management Centre UNITED KINGDOM					Cees Bil Jai Moo Kim Korea Aerospace Research Institute KOREA				
		The Story So Far, Development of an Integrated Vehicle Health Management Centre					Tiltrotor UAV Development and Ground Test				
1355 - 1400											
Move between session											
1400 - 1530		Session 6A	Session 6B	Session 6C	Session 6D	Session 6E	Session 6F	Session 6G	Session 6H	Session 6I	Session 6J
Room		101	102	103	104	105	106	107	108	109 &110	111 &112
Theme		Sustainment	Structures	Control Systems	Data Aquisition/SHM	Helo HUMS	Uninhabited Aerial Systems	Certification & Safety	Materials	Aerodynamics	Systems
Chair		Kevin Goldsmith	Robert Boykett	Noel Martin	Steve Galea	Andrew Becker	Simon Watkins	Kevin Watters	Mark Stuart	Robert O'Dowd	Robert Gulley
1400 - 1430		Sustaining Aircraft Structural Integrity: Risk and Value Management* Eric Wilson University of New South Wales AUSTRALIA	Fatigue-Initiating Discontinuities in Aircraft Structures* Simon Barter Defence Science & Technology Organisation AUSTRALIA	Control System Design and Optimisation via Genetic Programming* Anna Bourmistrova RMIT University AUSTRALIA	Next Generation Data Acquisition Technologies for Aging Aircraft* Niall Heffernan ACRA CONTROL IRELAND	Maneuver/Regime Recognition Validation & Verification Using Visualization Technique Suresh Moon Air Vehicle Engineering, L-3 Communications USA	Coordination of Mission Roles for Semi-Autonomous UAVs in a Simulated Combat Environment* Haoyang Cheng University of New South Wales AUSTRALIA	Measurement and Communication of Military Aviation Software Safety Risks Patrick Radmond Australian Defence Force AUSTRALIA	Application of CT Scanning to Investigate the Failure of Carbon Fibre Composite Bolted Joints* Garth Pearce University of New South Wales AUSTRALIA	Aerodynamic Improvement of Flap Performance Using Delta-shaped Vortex Generator Dongyoun Kwak Japan Aerospace Exploration Agency JAPAN	The Static Flight Performance Analysis of a Korea Traditional Kite Kang Chi-Hang Korea Air Force Academy KOREA
1430 - 1500		Through-Life Support as a Service: The Role of Aircraft Manufacturers* Luke Webb RMIT University AUSTRALIA	Aircraft Landing Gear Parameter Estimation and Simulation using Elimination Method Ka Wai Lee RMIT University AUSTRALIA	Firefighter UAV Airfoil Design Via Evolutionary Algorithms* Adrian Hudiono RMIT University AUSTRALIA	The AUSAM System for Fatigue Crack Monitoring in a Wing Skin: A Case Study Cédric Rosalie Defence Science & Technology Organisation AUSTRALIA	The Dutch Approach to Force Life Management (FLM) Issues Lex ten Have & Arjen Vollebregt NLR THE NETHERLANDS	Aerodynamic Testing of Small, Hovering Entomopters* Jennifer Palmer Defence Science & Technology Organisation AUSTRALIA	Risk Based Approach to Compliance Assurance Shaun Norman Directorate General Technical Airworthiness AUSTRALIA	Response Characterisation in CFRP Notched Coupons with Energy-Based Multi-Axial Failure Data* Andrew Litchfield RMIT University AUSTRALIA	Design of a Small-scale Supersonic Flight Experiment Vehicle as a Flying Test Bed and Construction of its Prototype for Subsonic Flights Kazuhide Mizobata Muran Institute Of Technology JAPAN	The Technique Studies on Stability of Rocket Ejection Seat Ming Wu Aerospace Life-Support Industries,LTD CHINA
1500 - 1530		The P-3 Repair Assessment Manual (RAM) Kevin Watters QinetiQ AeroStructures AUSTRALIA	Gust Alleviation Device Applied To The Sensorcraft Structure Garth Vio University of Sydney AUSTRALIA	Fault Tolerant Flight Control System Design for Unmanned Air Vehicles* Rudaba Khan RMIT University AUSTRALIA	Slotted Circular Microstrip Patch Antenna Application in Strain Based Structural Health Monitoring* Ali Daliri RMIT University AUSTRALIA	Replacing Obsolete Equipment For Drivetrain Health Monitoring On RAN Sea King Helicopters Paul Marsden Defence Science & Technology Organisation AUSTRALIA	Geometric Analysis of Optimal Trajectory for 3D Localization by UAVs with Bearing-only Sensor Jaehwan Pi Korea Advanced Institute of Science & Technology KOREA	The Certification and Qualification Flight Test Campaign of the Tanker KC30 for the RAAF Miguel Morrell Airbus Military SPAIN	Influence of Heat Treatment of Aging on the Mechanical Properties of Aluminium 6063 T5 AND 6061 T8* Carlos Arturo Bohorquez Avila Universidad Libre COLOMBIA	Pressure Fluctuations Over an Airfoil in Smooth and Turbulent Flow at Low Reynolds Number Sridhar Ravi RMIT University AUSTRALIA	The Reliability of KUH Full-scale Airframe Static Test Chang-Won Shul Agency For Defense Development KOREA

1530 - 1600

Afternoon Tea

	Session 7A	Session 7B	Session 7C	Session 7D	Session 7F	Session 7G	Session 7H	Session 7I
1600 - 1700	101	102	103	105	106	107	108	109 & 110
Room	101	102	103	105	106	107	108	109 & 110
Theme	Space	Sustainment	Safety	Panel Session	Uninhabited Aerial Systems	Aviation Safety	Structures	Aerodynamics
Chair	Lachlan Thompson	Nathan Poyner	Richard Kloeden	Albert Wong	Keirin Joyce	Jeremy Blackwell	Loris Molent	Jan Drobik
1600 - 1630	Special Overview Briefing: Roscosmos and Australia Perspective Cooperation Trends. Gennady Raykunov, Nikolay Panichkin, Viktor Ivanov Central Research Institute for Machine Building RUSSIA	A Novel Method for the Prediction of Remaining Useful Life Based on the LSCR Approach* Sangho Ko Korea Aerospace University KOREA	Study for Initial Attitude Estimation of Gliding Munitions through Observability Analysis of the GPS/INS Algorithm Jaemin Sung Gyeongsang National University KOREA	HUMS Implementation Phase - Lessons Learned and Outstanding Issues	Preliminary Flight Testing of Autonomous Soaring with the Kahu UAS* Jennifer Palmer Defence Science & Technology Organisation AUSTRALIA	Risk Analysis of Safety By Inspection of Ageing Aircraft Kevin Watters QinetiQ AeroStructures AUSTRALIA	Ageing Aircraft Systems Audit - Fighting the Ageing Process Robert Boykett Defence Science & Technology Organisation AUSTRALIA	Dynamic Surface Pressure Measurements on a Flapping Wing Model Simon Watkins RMIT University AUSTRALIA
1630 - 1700		Optimisation of Maintenance Schedule for Military Helicopter Fleet Using Simplex and Metaheuristic Methods* Leonard Winata RMIT University AUSTRALIA	Air and Ground Motion Analysis of an Automatic Landing System for an UAV Ji Tae Kim Gyeongsang National University KOREA	HUMS2011 Conference wrap-up and Feedback.	Unmanned Aerial Vehicle: Development Trends & Technology in Singapore Sutthiphong Srigrarom SIM University SINGAPORE	Technical Tests Results of the System 'Intrans' For Use During the Accident Aircraft Igor Zalagin National Aerospace University AUSTRALIA	Developments with the F/A-18 FINAL Centre Barrel Test Program Geoff Swanton Defence Science & Technology Organisation AUSTRALIA	Aerodynamic Modelling of Flapping-Wing Flight* Aliya Valiyff Defence Science & Technology Organisation AUSTRALIA

Move between session

1700 - 1705

CONGRESS PLENARY CLOSING

1705 - 1730

Meeting Rooms 109 & 110

Room

Noel Martin

Chair

1830 - 2300

HUMS Defence Science & Technology Organisation Conference Dinner

Studio 3, Crown

Day 3 - Thursday 3 March 2011

Australian International Airshow & HUMS2011 Program

0730 - 0900 Coach Transfer from Melbourne Convention Centre to AVALON 2011

0930 - 1230

HUMS - Technical Briefings at Australian International Airshow AVALON 2011

0930 - 1000	Onboard Helicopter Rotor Condition Monitoring Systems and Smoothing Algorithms Peter Morrish, HeliTune & Steve Pollard, University of Bristol
1000 - 1030	F414 Engine Condition Monitoring System (ECMS) - Program Demonstration Matt Williams, TAE
1030 - 1100	Next Generation Multi-role Recording: A Reliable, Flexible Solution Niall Heffernan, Acra Control
1100 - 1130	To be advised
1130 - 1200	To be advised

1500 - 1700 Coach Transfer from AVALON 2011 to Melbourne Convention Centre

KEY

Presentation Titles Marked With An * Indicates the Paper has been Peer Reviewed

	AERO Papers
	HUMS Papers
	APISAT Papers